



-the passion of sound-



INSTALL GUIDE

SRA1500.1 / SRA2200.1

MONO AMPLIFIERS

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INTRODUCTION

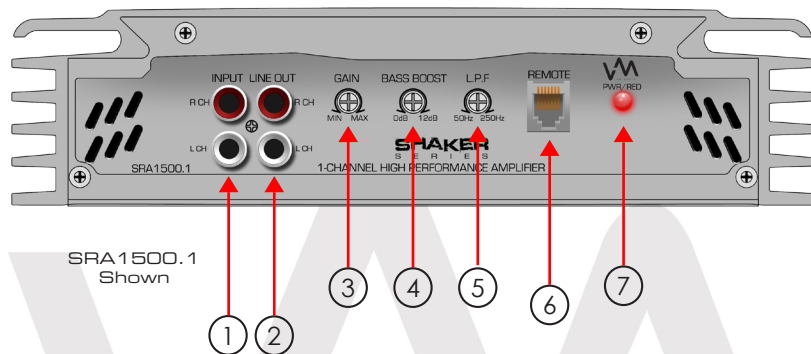
Thank you for your interest in VM Audio products. Our goal is to enhance your listening experience. The Shaker Series was designed as the economical solution for a performance craving, casual consumer. The experts and engineers at VM Audio have meticulously tested and designed this product with a reasonable price tag to fit any budget. Let the Shaker Series maximize the value of your investment.

FEATURES

- Class A/B Amplifiers
- Low Noise and Distortion
- Bridgeable Outputs
- DC-to-DC PWM Conversion
- Unbalanced Inputs
- Soft Turn-On
- Discrete Signal Processing
- Preamp Stereo Outputs
- Amplifier Protection Circuits
- Variable Gain Control
- Lowpass Active Crossover
- Frequency Variable Crossover
- Bass Boost Gain
- Remote Bass Adjustment

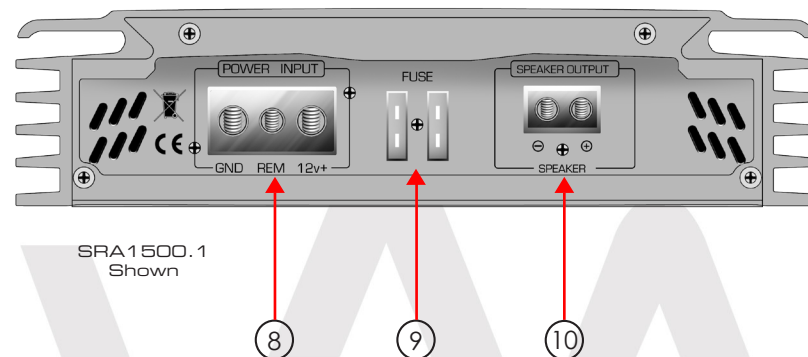
FUNCTIONS

Front Panel



1. INPUT: Audio Cable Jack Connections
2. OUTPUT: Audio Cable Jack Connections
3. GAIN: Input Signal Adjustment Knob
4. BASS BOOST: Bass Adjustment Knob
5. LPF: Low Frequency Filter Adjustment Knob
6. REMOTE: Remote Bass Knob Cable Plug
7. LED: Power Status LED

Rear Panel



8. POWER INPUT: Power Cable Terminal
9. FUSE: In-Line Protection Fuse(s)
10. SPEAKER OUTPUT: Speaker Wire Terminal

GETTING STARTED

Mounting

- Mount the amplifier on a flat, secure surface.
- Investigate the layout of your automobile thoroughly before drilling.
- Place the amplifier in a location that allows air to circulate around it to keep it cool.
- If possible, mount the amplifier vertically for proper heat dissipation.
- Avoid mounting the amplifier upside-down as this will not provide adequate ventilation for the amplifier.
- In order to prevent overheating, avoid covering the amplifier with carpet or enclosing it behind the interior panels.
- If the amplifier is installed in a tight area, it must have at least a 1-inch air gap all around for proper cooling.

Warning!

- Be aware of gas tanks, gas lines, hydraulic lines and electrical wiring when drilling mounting holes to prevent serious or life threatening injuries.
- Do not leave the amplifier unmounted in order to prevent the unit from ejecting like a projectile in the unexpected event of an accident.
- Do not mount the amplifier on top of wires or metal surfaces in order to prevent electrical short circuit or a fire.
- Never mount the amplifier in the engine compartment.

Wiring

- Before you begin routing and connecting the power wires, disconnect the negative ground cable from the vehicle's battery.
- Install and connect the highest possible wire gauge the amplifier's terminal will accept (1/0 GAUGE) for both power cables (+12V and GND).
- Install an in-line fuse into the positive (+) wire 18 inches away from the car battery. It should be the same rating as the amplifier's internal fuse(s).
- Route all power and speaker wires inside the vehicle toward the amplifier prior to mounting it.
- Avoid routing electrical wires where they are at risk of getting pinched.
- Use rubber or plastic grommets to protect any wires when routed through metal.
- Route the power cables through one side of the vehicle while routing the RCA audio cables through the other side.
- The ground connections should be as short as possible and always be connected to chassis metal. Chassis ground connection should be clean, rust free, unpainted and as close to the amplifier as possible.

Warning!

- Disconnect the negative (-) battery terminal before routing cables and wires to prevent electrical shorts.
- Never route wires underneath the vehicle.
- Do not run wires through sharp edges.
- Always turn off amplifier(s) before making any type of connection.

INSTALLATION

Make sure to mount the amplifier in a location where there is enough room to have access to the knobs and terminals.

1



Mark the mounting screw holes to be drilled with a marker.

2



Drill the holes on the marked spots with an electric drill.

3



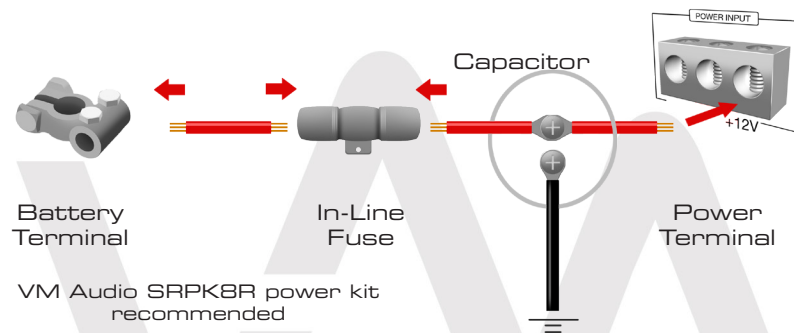
Secure the amplifier with screws using a phillips screwdriver.

WARNING! Be aware of gas tanks, gas lines, hydraulic lines and electrical wiring when drilling mounting holes to prevent serious or life-threatening injuries.

POWER CONNECTIONS

Make sure to disconnect the negative (-) battery terminal before routing cables and wires to prevent electrical shorts.

Power

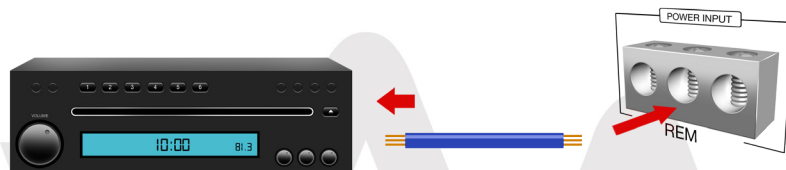


1. Strip 1/2 inch of insulation off each end of the power cables.
2. Connect one end of the power cable to the positive + battery post.
3. Install an in-line fuse holder 18 inches away from the car battery.
4. Route the power cable from the battery to the in-line fuse holder and connect.
5. Route the power cable from the in-line fuse to the amplifier's power terminal (or a power capacitor such as **VM Audio SRCAP2.0**).
6. Connect the power cable to the in-line fuse and the other end to the amplifier's positive +12V power terminal (or capacitor's positive + terminal).

POWER CONNECTIONS Continued...

The remote wire, when connected to the amplifier, is designed to turn on the amplifier automatically when your stereo is turned on.

REMOTE

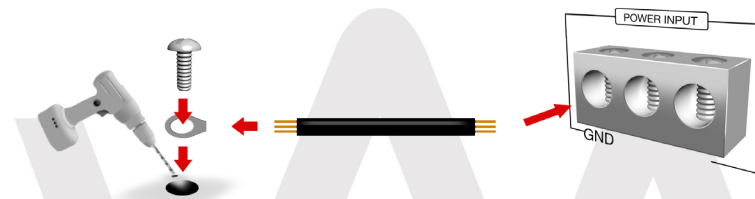


1. Locate the remote wire on the stereo head unit.
2. Route the remote wire with a wire length that expands from the stereo head unit all the way to the amplifier's negative power terminal.
3. Strip both ends of the remote wire by 1/2" to expose the wire.
4. Connect the remote wire to the stereo's remote wire by twisting both wires together, and insulate the connection well with electrical tape.
5. Connect the other end of the remote wire to the amplifier's remote REM terminal.

Consult with the manufacturer's user guide for your stereo head unit to locate the remote or turn-on wire, as some manufacturers might label their amplifier turn-on feature differently.

For a good electrical connection and maximum power transfer, use the same gauge size ground cable as the power cable. The length of the cable should be as short as possible and as close to the amplifier as possible.

GROUND



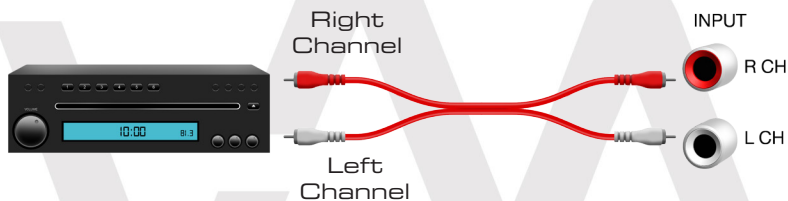
1. Locate a good, non-rusted chassis metal point in the vehicle.
2. Mark and drill a screw hole with an electric drill where chassis ground connection is to be made.
3. Use sandpaper to remove paint or rust to expose the area to bare metal.
4. Strip 1/2" of insulation on both ends of the ground cable to expose the wires.
5. Connect one end of the ground cable to an O-ring connector, and tightly fasten the connector using a sheet metal screw to the chassis metal.
6. Connect the other end of the ground cable to the amplifier's ground GND terminal.

WARNING! Be aware of gas tanks, gas lines, hydraulic lines and electrical wiring when drilling mounting holes to prevent serious or life-threatening injuries.

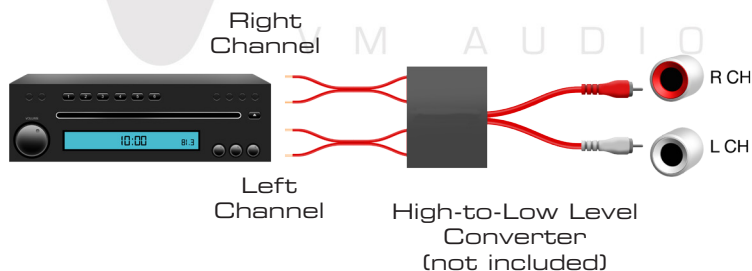
AUDIO INPUT

The audio inputs on the side panel of the amplifier receive low level signals from the RCA outputs of the stereo head unit. If your stereo head unit does not have RCA outputs, a High-to-Low level converter (not included) must be used. Both line inputs need to be connected to the stereo head unit in order to use all of the speaker outputs.

Stereo RCA Cables



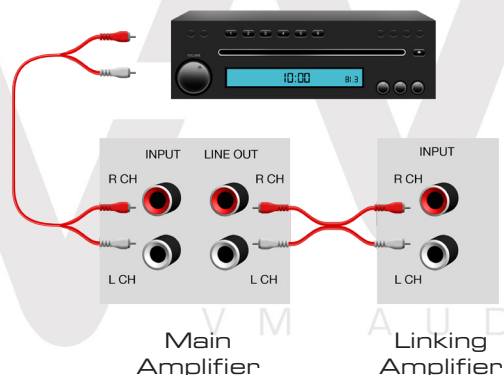
Speaker Wires



LINE OUTPUT

The pre-amp line outputs allow linking additional amplifiers without the need to split the audio signals from the stereo, using Y-RCA cable adaptors.

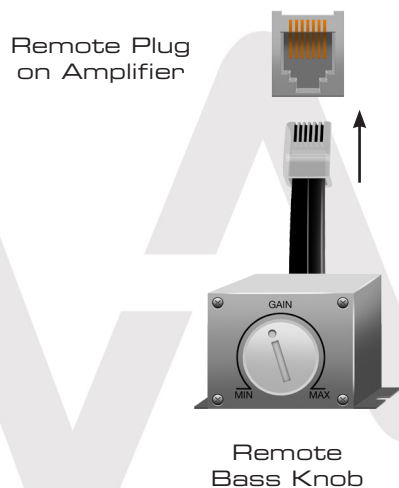
Amplifier Line Outputs



REMOTE CONNECTION

The remote control knob will allow you to control the bass output from your dashboard.

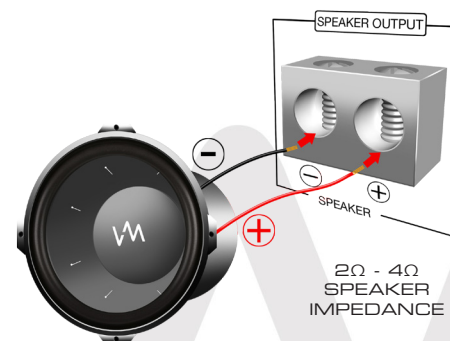
Remote Cable Plugin



1. Carefully route the cable (included) from the amplifier to your stereo head unit.
2. Once the cable is in place, connect one end of the cable to the remote bass knob.
3. Connect the other end of the cable to the amplifier remote plug input.

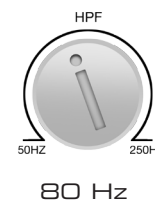
SPEAKER WIRING

Single Subwoofer Wiring



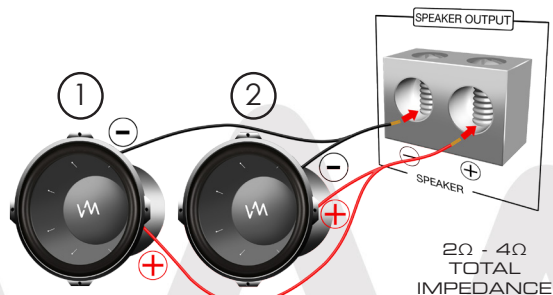
Connect the subwoofer's positive + terminal to the positive + terminal on the amplifier, then connect the negative (-) terminal of the subwoofer to the negative (-) terminal on the amplifier.

Amplifier Filter Setting



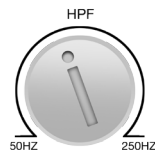
SPEAKER WIRING Continued...

Parallel Subwoofer Wiring



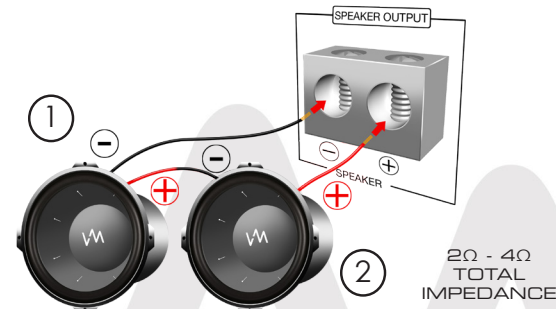
Connect the positive + terminals from subwoofers 1 and 2 to the positive + terminal on the amplifier, then connect the negative (-) terminals from subwoofers 1 and 2 to the negative (-) terminal on the amplifier.

Amplifier Filter Setting



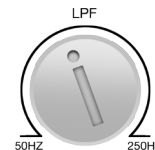
80 Hz

Series Subwoofer Wiring



Connect subwoofer 1's positive + terminal to the negative (-) terminal on subwoofer 2, then connect the negative (-) terminal of subwoofer 1 to the negative (-) terminal on the amplifier. Connect subwoofer's 2 positive + terminal to the positive + terminal on the amplifier.

Amplifier Filter Settings



80 Hz

CONTROLS

Description



Gain: This feature controls the audio input signal strength going into the amplifier.



Bass Boost: Increases the bass level from +1dB up to +18dB.



LPF Frequency: Low pass crossover frequency filter adjustment.



REMOTE: Gain knob cable input plug to conveniently adjust the bass boost strength.



Power LED: Power and protection amplifier status indicator.



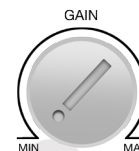
Input: Line level audio inputs.



Output: Line level audio outputs.

CALIBRATION

Setting Gain



1. Turn the gain and bass control all the way down (counterclockwise).
2. Turn the vehicle on, and make sure the source unit is turned on.
3. Insert a CD/DVD with undistorted music.
4. Start to increase the volume at the source unit until you hear distortion (approximately at 90%).
5. Turn the volume down at the source unit until the distortion goes away.
6. At the amplifier, slowly turn the Gain control up (clockwise) until you hear a slight audio distortion.
7. Turn the Gain control back down until the audio distortion goes away.
8. When the Gain control is properly set, you should be able to achieve the maximum undistorted output with the volume turned all the way up.

Warning!

Do not set the amplifier's gain very high as noise, distortion and amplifier heat will increase significantly and amplifier failure could occur.

If Bass Boost is used, keep the Gain setting down.

CALIBRATION Continued...

Setting Bass Boost



1. Turn the gain and bass control all the way down (counterclockwise).
2. Turn the vehicle on, and make sure the source unit is turned on.
3. Insert a CD/DVD with undistorted music.
4. Start to increase the volume at the source unit until you hear distortion (approximately at 90%).
5. Turn the volume down at the source unit until the distortion goes away.
6. At the amplifier, slowly turn the Bass Boost control up (clockwise) until you hear a slight distortion from the speakers.
7. Turn the Bass Boost control back down until the distortion goes away.
8. When the Bass Boost control is properly set, you should be able to achieve the maximum undistorted output with the volume turned all the way up.

Warning!

Do not set or increase the amplifier's gain when setting the Bass Boost control. Increasing the gain even slightly will cause the amplifier to heat up and amplifier failure could occur.

TROUBLESHOOTING

If the amplifier does not appear to be working, check for blown fuses, poor or incorrect wiring connections and incorrect settings.

NO SOUND? **1)** Source unit volume is turned down or muted: Turn volume up slowly or turn mute off. **2)** Low or no remote turn-on voltage: Check remote connections at the amplifier and source unit. Check with your DMM to make sure there is 12V to the REM wire. **3)** Blown Fuse on the Amplifier: Replace with new fast-blow fuse (same rating). **4)** Power wires not connected: Check battery connections, Check grounding wire at amplifier, Use your DMM and check your voltage at the amplifier. **5)** Speaker leads shorted: Check speaker continuity using your DMM to ground (it should show no common ground). **6)** Speakers not connected or blown: Check speaker connections at amplifier and at speakers, Disconnect speakers at amplifier and measure coil impedance with DMM.

DISTORTED AUDIO? **1)** Gain may not be properly set: Review section (Calibration) for setting the Gain properly. **2)** Speaker may be damaged: Inspect each speaker cone for signs of damage (frozen cone, burned smell, separated or ripped surround or spider).

REDUCED BASS? **1)** Speakers may be wired in reverse polarity: Reverse a speaker connection from positive to negative on the stereo or speaker.

TROUBLESHOOTING Continued...

AMPLIFIER FUSE KEEPS BLOWING? 1) Incorrect wiring or short circuit: Using your DMM, make sure that all voltage polarities are correct, Review section (Installation) for proper wire connection. **2)** Amplifier being driven too hard: Turn down the volume. Gain or Bass Boost not properly set, Review section (Tuning) for setting the Gain and Bass Boost properly. **3)** Under-sized or faulty fuse installed: Replace the fuse with a fuse of the same rating in accordance with the manufacturer's suggestion.

WHINING NOISE WHEN ENGINE IS ON? 1) RCA cables too close to power wire: Separate RCA and power cables, Run an extra set of RCAs on the outside of the vehicle, and if noise is eliminated you might need a better shielded RCA cable. **2)** Ground loop problem: Re-Ground the amplifier to a more electrically conductive location, Re-Ground the stereo head unit to a more electrically conductive location, Re-ground the amplifier to a point of the vehicle that is secure and not thin metal, Make sure that bare metal is in contact with the connector. **3)** Induced noise: Relocate components away from electrical noise sources such as engine control computers and ABS brake control modules.

AMPLIFIER SHUTS DOWN AFTER PLAYING FOR A PERIOD OF TIME? 1) Thermal protection circuits are shutting the amplifier off: Check the location for adequate ventilation (Relocate amplifier if necessary), Impedance may be too low and over heating the amplifier.

SPECIFICATIONS

MODELS	SRA1500.1	SRA2200.2
OUTPUT CHANNELS	1	1
POWER per channel		
4Ω	750W	1100W
2Ω	1500W	2200W
THD-N @ 4Ω	<0.05%	<0.05%
FREQ. RESPONSE	15Hz - 350Hz	15Hz - 350Hz
LOWPASS	50 - 350Hz	50 - 350Hz
SUBSONIC	N/A	N/A
BASS BOOST	0dB - 12dB	0dB - 12dB
INPUT SENSITIVITY	200mV - 8V	200mV - 8V
INPUT IMPEDANCE	22k Ω	22k Ω
S/N RATIO	>90dB	>90dB
FUSE	40A	60A
DIMENSIONS		
WIDTH (inches)	11.35"	12.93"
HEIGHT (inches)	9.94"	9.94"
DEPTH (inches)	2.40"	2.40"

CONSUMER LIMITED WARRANTY AGREEMENT

Your product is covered by a limited warranty by VM Audio as established below:

Mobile Electronics Limited Warranty

Products purchased from an Authorized VM Audio Dealer are warranted to be free of defects in material and workmanship for one (1) year from the date of original purchase under normal usage. Products that are identified as "refurbished" have a limited warranty of ninety (90) days from the date of original purchase. Dated proof of purchase (original receipt or invoice) will be required for all warranty claims. In the unlikely event that you experienced a manufacturing defect or malfunction during the warranty period, VM Audio will repair the defective product or replace with the same or equivalent product if the same item is not available or discontinued. Replacement product may have superficial blemishes or scratches that do not affect the performance of the product. This warranty is only intended and valid for the original purchaser and cannot be extended to subsequent owners. Any applicable implied warranties are limited to the period of the expressed warranty starting from the original purchase date. No warranties, expressed or implied, will be accepted after the previously listed periods. Exclusions may apply; please check your local state laws. Instructions for Claiming Warranty Service

If you should require warranty service, please return the product to the Authorized VM Audio Dealer you originally purchased the item for an experienced and speedy claim of your warranty service. Contact VM Audio directly to find the Authorized Dealers nearest you.

In the case the defective merchandise needs to be returned to VM Audio, please contact us and a Return Merchandise Authorization (RMA) number will be assigned. It is important to pack all defective items in the original packaging to prevent damages from shipping, and be sure to write the RMA number clearly on the outside of the box for faster processing. Do not include non-defective items as it is not necessary and will increase your shipping costs.

Include a copy of the original receipt or invoice with the purchase date, dealer's name, customer's name and invoice number clearly visible. Manufacturing date may be used if no proof of purchase is provided. The customer will pay to ship the defective product; COD will not be accepted.

Please follow the above instructions carefully to prevent voiding your warranty.

Your Warranty Service Does Not Cover the Following:

- Products not purchased from an Authorized VM Audio Dealer
- Damages from poor installation by not following the included instruction manual.
- Damages due to excessive moisture, heat and other elements from improper care.
- Evidence of tampering or repair by non-authorized personnel.
- Products not issued an RMA number.
- Damage during freight from poor packaging or handling.
- Return shipping on non-defective items.

Warranty Turnaround Time

It is VM Audio's goal to turnaround the merchandise in a timely fashion of 1 week. Unexpected delays may occur due to repair parts or replacement shortage.

International Warranty

Please check with your Authorized International VM Audio Dealer or distributor for specific warranty policies and process for your country.